



SECONDARY PROSTATIC CALCULUS.



CASE OF LARGE
SECONDARY PROSTATIC CALCULUS,

REMOVED BY

PERINÆAL INCISION;

READ AT THE ANNUAL MEETING OF THE

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION,

HELD AT NORWICH, AUGUST 19TH, 1846,

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INTRODUCTION.

Since the accompanying case was printed I have examined the calculi referred to by Professor Owen and Dr. Golding Bird, in the Hunterian Museum and Guy's Hospital.

Of the identity of the calculus removed from my patient, with the quadrifid specimen at the College of Surgeons, (No. H. 13,) there can be no doubt; the pieces are co-adapted by similar smooth conchoidal surfaces, and their general appearance is the same. Two of the pieces in the College specimen are channelled at their upper surface by the urine; they are well figured in Plate VIII. of the published catalogue.

The specimen (No. 2148) is thus explained in the catalogue of the valuable collection at Guy's Hospital:—"Two calculi, composed of phosphate of lime; the one large, the other small. The latter has a smooth polished convex surface, fitted by attrition to a corresponding smooth concave surface on the former: weight 257 $\frac{3}{16}$ th grains. Removed by Sir Astley Cooper; analysed by Dr. Babington." This stone is of a whiter colour, and appears to be less dense and somewhat more porous in some parts; the section of the large piece has also a slightly laminated appearance.

In the fourth volume (page 103) of Dr. Ranking's *Half-Yearly Abstract of the Medical Sciences*, a case is described in which M. Lenoir, of Paris, caused the escape of about fifteen small calculi by pressure upon the prostate. They were of a dark yellow colour, and presented facet surfaces; when burnt they gave a decided animal odour. A few months later the patient was again sent to Paris, under the idea that he was suffering from vesical calculus, and a number of small stones were again emitted

by pressure of the prostate. M. Lenoir thought that the calculi were formed in the ejaculatory ducts, and that it was because they occupied the orifice, that they produced, when touched with the sound, the sensation of a stone in the bladder.

M. Nelaton had met with a case at the Hôtel Dieu similar to the one of M. Lenoir. He managed to withdraw several by means of lithotritic instruments, and the patient left apparently cured. Two months afterwards he returned with the same symptoms, indicating prostatic calculi, and with a vesical calculus in addition. M. Nelaton was not able to lay hold of the latter, in order to crush it, and was obliged to perform the operation of lithotomy. On scratching the surface of the incised prostate with his nail, he managed to make several calculi fall, similar to those described by M. Lenoir. The patient was cured. M. Michon, M. Guersent, and M. Laugier, thought that prostatic calculi were not rare; M. Malgaigne was of a contrary opinion.

Should a case of this comparatively rare kind of calculus have come under the observation of any gentleman into whose hands this short sketch may fall, I shall esteem it a favour if he will communicate with me on the subject.

BEDFORD,
January 19th, 1847.

A CASE OF

LARGE SECONDARY PROSTATIC CALCULUS,

REMOVED BY PERINÆAL INCISION.

DESCRIPTION AND PREVIOUS HISTORY.

John M——, of Harrowden, near Bedford, aged twenty-six, farmer's labourer, sent for me on the 25th of October, 1843. He was labouring under complete retention of urine, and complained of considerable pain in the urethra and perinæum. On examination the penis was found to be very œdematous, with a fistulous opening on its under surface and towards the left side, about three inches from the extremity, from which a small quantity of purulent fluid was discharging. This opening first made its appearance about four days ago, followed by the escape through it of a considerable quantity of urine; but during the last twenty-four hours urine had also ceased to flow through this opening.

The perinæum presented some tumefaction and slight redness of the soft parts. On making firm pressure in its centre near the anus, a deep-seated hardness could be felt; and on attempting to move this hardened base from side to side, some degree of crepitation could be detected, as if produced by the limited movement of calculi firmly impacted together. On introducing a finger into the rectum, considerable enlargement was felt in the region of the prostate gland, and similar crepitation was also felt as far as the finger could reach in that direction. On introducing a probe into the fistulous opening, it passed readily about an inch and a-half backwards and inwards towards the urethra, but it could not be brought into contact with any hard substance.

All that could be learned of his previous history was, that since he had been four years of age he had laboured under incontinence of urine, which had rendered him very offensive to society, and had long since induced him to abandon it as much as possible. Some years ago he had been a patient in the Infirmary, but without any relief. He had never suffered *very severe* pain, nor from retention of urine before the present attack, and urine had never flowed through any other than the natural channel before the formation of the fistulous opening four days before.

He was directed to maintain the horizontal position, to use fomentations of warm water to the perinæum, to drink as little as possible, and to take simple aperients. His mind was prepared for the probable necessity of removing the calculi on the following day.

October 26th, Eleven a.m.—Visited him with my pupil, found him in the same state in which he had been left on the preceding day, and again made a careful examination of the perinæum and per rectum, which ended in the thorough conviction of the presence in the posterior part of the urethra of several calculi of large size. Another attempt was made to pass the probe further backwards through the fistulous opening, but with the same result.

OPERATION.

Having procured the assistance of a strong man in the neighbourhood, to sit behind and hold my patient, he was placed in the position for lithotomy, and the calculi were removed in the following manner:—The perinæal integuments were rendered tense with the left fore-finger and thumb, and an incision made through them together with the superficial fascia, two or three lines to the left of the raphe, commencing about two inches and a-half from the anterior margin of the anus, and terminating within half an inch of this margin. On introducing the point of the finger into the incision, the calculus could be readily felt, and was cut down upon with the point of the bistoury, and the intervening soft parts were divided upwards and downwards to the entire extent of the first incision.

Observing that the several portions of the calculus were firmly wedged together, and that it was impossible, from its size, to

remove it *en masse*, a lateral movement of the portions within view was had recourse to by means of the finger and thumb, for the purpose of loosening them, and with little difficulty the pieces forming the anterior narrower part of the calculus were removed, and some of those constituting the posterior and broader portion were disintegrated.

Having brought away several fragments with the fingers, others were grasped by the forceps and removed; but finding considerable difficulty in loosening three or four remaining portions, the left fore-finger was introduced into the rectum, for the purpose of dislodging them from the prostatic part of the urethra, which being done, they were seized by the forceps and removed. The dislodgement of these last portions of the calculus was followed by the escape of a small quantity of urine. Having satisfied myself by careful examination that no calculi were left behind, the parts were sponged, three points of interrupted suture were introduced, the perinæum was covered with lint, and my patient put into bed. He was directed to have but spare diet.

Ten p.m.—Comfortable; free from pain. A mild opiate draught was prescribed.

27th.—Free from pain, but suffering some anxiety in consequence of the place "*having burst*;" urine had accumulated in the cavity which had been occupied by the calculus, and had at length escaped between the sutures. There is very slight tumefaction of the perinæum, and the œdema of the penis has somewhat subsided. The discharge from the original fistulous opening in the penis is very slight. An opiate at bed-time.

29th.—The wound is going on very favourably; urine escapes through the lower end of the incision. Removed the interrupted sutures.

From this period to the next date he went on favourably, and the wound healed, with the exception of about half an inch of the lower extremity of the incision, through which the urine continued to flow.

November 13th.—A catheter was introduced into the bladder, through the entire length of the urethra, and secured in the usual manner. Two needles were introduced through the parietes of the unhealed part of the incision, which were brought together as accurately as possible by the twisted suture. He was directed to remain in the supine position.

14th.—The urine has escaped through the catheter. The instrument having produced so much uneasiness as to prevent him from sleeping, was withdrawn, and he was directed to remain undisturbed.

16th.—Urine dribbles away per urethram. The needles were removed, and he was directed to remain as quiet as possible a few days longer.

From this period the urine escaped by the urethra, but he was unable to retain more than about an ounce at a time. The wound healed soundly, and he went to work in eight weeks after the operation.

REMARKS.

The calculi are *twenty-nine* in number, and weigh *three ounces, four drachms, and one grain, or 1,681 grains*. They are of a whitish colour and porcelainous lustre and hardness; indeed, the latter character is so well marked that it is with some difficulty that any impression can be made upon them with a knife.

The entire calculus was composed of these several portions closely cohering by curved faces, so that on any violence being applied to the mass it would readily break up, each portion presenting a conchoidal lustrous surface.

One of the largest calculi was forwarded to Dr. Golding Bird, for the purpose of being submitted to a chemical examination. That gentleman remarks, in a note dated January 23, 1844:—

“Had I seen this calculus without receiving any history, I should at once have pronounced it prostatic, and such at this moment I suspect to have been its origin.

“My own view of the origin of this very curious form of concretion is, that the calculous material is deposited in cells connected with, or forming part of, the prostate gland, and that these enlarge as an increase in the amount of calculous deposit occurs, until the walls of the cells become exceedingly attenuated and ultimately destroyed. By the cohesion of calculous masses deposited in adjoining cells, the whole concretion is built up so loosely, however, that a slight blow will cause it to be disintegrated into its several component portions.

“The calculus is identical in composition with the concretions occasionally found in glandular structures, (as salivary, bronchial

ealeuli, &c.,) consists of phosphate of lime, with a rather larger proportion than usual of the ammoniao-magnesian phosphates."

Dr. Golding Bird also states that an exactly analogous specimen exists in the extensive collection at Guy's Hospital. (No. 2148.)

I wrote to Professor Owen concerning the existence of any similar caleulus in the museum at the College of Surgeons, and through the kindness of that gentleman, am enabled to give the following facts relating to the largest of this kind of caleulus in that collection. "The largest prostatic caleulus, though divided into four parts which were separate in the prostate, may be regarded as a single one, as the four pieces, one large and three small, were co-adapted by smooth surfaces.

"The weight of this quadrifid caleulus is 575 grains. It is what may be termed a secondary prostatic caleulus, being composed of salts deposited from the urine, not from the prostatic secretion; the salts being the mixed phosphates with a little urate of ammonia and carbonate of lime. The specimen is No. H, 13, in the collection."

The history of the caleulus referred to by Professor Owen, as described under H, 13, in the published catalogue, runs as follows:—"One large and three small caleuli, having articulating surfaces. These caleuli were taken from the prostate gland, which was converted into a cyst; they consist of the mixed phosphates, with a little urate of ammonia and carbonate of lime, and weigh 575 grains. One of the caleuli protruded about one-tenth of an inch into the cavity of the bladder through an ulcerated opening situated anterior to the natural opening of the urethra."

Mr. Thomas Taylor, of London, informs me that the portions of bladder and urethra from which these caleuli were taken, are likewise preserved in the museum, and were presented by Mr. Lawrence.

Desirous of finding mention of some case analogous to the one which had occurred in my practice, I referred to the admirable monograph and prize essay by our respected President, Mr. Crosse, "On the Formation, Constituents, and Extraction of the Urinary Caleulus," and particularly to the fifth chapter, relating to urethral and prostatic caleuli.

Although in that chapter several remarkable cases are related in which large caleuli had been extracted from the prostatic portion

of the urethra, reference could not be found to any case in which the calculi presented the same characters as the one which has been described. Somewhat similar cases, as far as the situation of the calculus is concerned, are detailed in pages 26, 27, 29, and 30 of that treatise, and the practical and experienced author strongly recommends the removal of the calculus thus placed by a lateral incision in the perinæum, where a staff can be introduced into the bladder, or by cutting upon the gripe, where it cannot. In the following foot-note of page 27, cases are alluded to particularly bearing upon the mode of treatment adopted in the one just now described.

“In *Essays and Observations, Physical and Literary*, vol. iii., p. 546, published by the Philosophical Society of Edinburgh, Dr. Livingston has related two cases of vesico-urethral calculus; in one the calculus was found *post-mortem*, in the other he operated by cutting on the gripe. The difficulties attending such an operation, where you propose to operate and cannot get a staff into the bladder, are shown in *Medical Facts*, vol. viii., p. 126; also in an interesting case by Mr. Cheston, of Gloucester, related in the *Medical Records and Researches*, vol. i., p. 163. Under complete retention of urine, with a stone thus lodged, or a small stone impacted in the commencement of the urethra, the surgeon, being unable to get either catheter or staff into the bladder, may be compelled to cut into the urethra at its membranous part, and to incise the neck of the bladder, in order to give outlet to the urine, and at the same time to remove the calculus. I have met with examples of such practice being required.

“M. Deschamp removed a calculus, situated in the prostatic urethra and causing complete retention, by an incision, as in the lateral operation of cystotomy. (*Traité de la Taille*, tom iv.) Sabatier, (*Méd. Opératoire*, tom iii., p. 136,) observes that the Celsian method is preferable to all others when the stone, having lodged at the neck of the bladder, has gone on increasing so as to extend into the urethra and become prominent in the perinæum; and Dionis, (*Operations de Chirurgie*, par La Faye, p. 221,) previously made the very same remark.”

This being an unusual case, not only from the fact of so large a calculus lodged and increasing in the prostatic urethra having been removed by operation, but from the mechanical structure and

chemical nature of the calculus itself, I wrote to Mr. Crosse concerning it, and forwarded the calculi for his examination. To that gentleman and his son I am indebted for having put together the several pieces, so as to build up the calculus as it existed in the urethra, and from which a few casts have been prepared by Mr. Charles Goodwin, of Norwich.*

The entire stone is four inches and seven-eighths in length, and considerably larger at one end than at the other. The *larger* extremity had been situated posteriorly in the prostatic part of the urethra. Around the broadest part it measures four inches and five-eighths, from which it tapers to the other extremity, where it measures one inch and five-eighths in circumference. Midway between the two ends it measures three inches and a half. It is rounded and convex on the lower surface, or that which was nearest to the perinæum, which is the aspect represented in the plate; and the opposite surface is somewhat flattened and concave. It presents two curves,—a larger one, the concavity of which is in the centre of the upper surface of the stone, and apparently corresponding with the curved shape of the posterior part of the urethra, and a smaller one in the opposite direction, near the anterior extremity. The surface is intersected with numerous angular lines, indicating the division of the stone into many pieces, which are well shown in the plate.

In order to give some idea of the difficulty in fitting together the several pieces constituting this calculus, I cannot do better than transcribe part of a note from Mr. Crosse, dated April 7, 1844.

“You will be surprised to learn that my son put together nineteen portions of the calculus sent me, and that by two hours attention last night I adjusted the other eight, so that I have made out a most singular specimen, shaped like the outline herewith sent, nearly five inches long. There is one vacancy which answers to the large portion you sent to Dr. Golding Bird, and the anterior flat end shows a deficiency, which I can readily supply in imagination, as shown by the dotted line, and to which the fragments you name undoubtedly answer. The portions are now fixed together lightly by gum; and I hope to be able to make

* Possessed of the mould I shall be happy to prepare a cast for any gentleman who may wish to have one.

a east, and then I will write to you more fully. This is the most curious and intricate puzzle I ever saw. The Chinese puzzle is nothing compared to it; and how my son advanced so far in adjusting the pieces is singular, without which step being gained I should not myself have entertained the slightest idea of accomplishing the difficulty."

In another note the same gentleman observes that "a relapse is almost sure to happen in all cases of a large calculus removed from the prostatic urethra, because the urethra remains large and out of shape, leading to deposit from the urine lodging there; and also because the lining membrane of such cavity furnishes a mucous secretion which much disposes to deposit of fusible calculus."

The man, whom I examined a short time ago, apparently continues free from further calculous deposit, although he is unable to retain a larger quantity of urine than before specified.

I have purposely refrained from treating of the bibliography and literature of the subject of similar prostatic calculi, and from a discussion of the manner of their formation, whether in the urethra by deposit from the urine, as is the opinion of Mr. Crosse, or in the cells of the prostate gland, as plausibly conjectured by Dr. Golding Bird, and have restricted myself to a concise description of the case and its treatment, merely giving some elucidatory parts of the correspondence which has resulted from it.

An expression of obligation is due to Mr. Bradford Rudge, of Bedford, for so ably executing the accompanying drawing.